

ABSTRACT OF THE DISCLOSURE

A photomask structure for reducing lens aberration and pattern displacement and method thereof. The photomask consists of a transparent substrate and a light-shielding layer, with the light-shielding layer including an array pattern area and a plurality of assist patterns disposed therein. The distance between the assist pattern and its upper and lower array patterns is equal, and the length of the assist pattern is equal to the width of the array pattern. The method of reducing lens aberration and pattern displacement includes providing a substrate covered by a photoresist layer, forming patterns on the photoresist layer by a photomask, and etching an array trench area in the substrate using a patterned photoresist as a mask. According to the present invention, the uniformity of critical dimension between array patterns is improved and pattern displacement is reduced significantly.